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 Mikael Degermark , Andrej Brodnik , Svante Carlsson , Stephen Pink  
ACM SIGCOMM Computer Communication Review , Proceedings of the ACM SIGCOMM '97 conference on Applications, technologies, architectures, and protocols for computer communication October 1997

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**2** Routing on longest-matching prefixes 87%

 Willibald Doeringer , Günter Karjoth , Mehdi Nassehi  
IEEE/ACM Transactions on Networking (TON) February 1996  
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ACM SIGMETRICS Performance Evaluation Review , Proceedings of the joint international conference on Measurement and modeling of computer systems June 1998  
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 V. Srinivasan , G. Varghese

ACM Transactions on Computer Systems (TOCS) February 1999

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Internet (IP) address lookup is a major bottleneck in high-performance routers. IP address lookup is challenging because it requires a longest matching prefix lookup. It is compounded by increasing routing table sizes, increased traffic, higher-speed links, and the migration to 128-bit IPv6 addresses. We describe how IP lookups and updates can be made faster using a set of transformation techniques. Our main technique, controlled prefix expansion, transf ...

**6** Scalable high-speed prefix matching 80%

 Marcel Waldvogel , George Varghese , Jon Turner , Bernhard Plattner

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 routers

Dan Decasper , Zubin Dittia , Guru Parulkar , Bernhard Plattner

ACM SIGCOMM Computer Communication Review , Proceedings of the

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